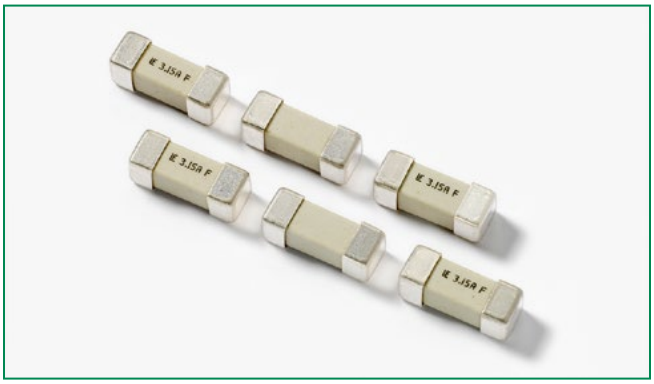
Surface Mount Fuses

Nano²® > 600VDC > Fast-Acting 485 Series

Littelfuse
Expertise Applied | Answers Delivered

485 Series Fuse



Description

The 485 Nano² Fuse Series is a small, fast acting, surface mount ceramic fuse rated at a remarkable 600VDC at its small size and with 100A breaking capacity. It is primarily designed for circuit protection in high energy applications. This product is fully compatible with lead-free solder alloys and higher temperature profiles associated with lead-free assembly.

Features

- Fast Acting / Surface mount high fuse for high voltage (up to 600VDC) applications.
- Fully compatible with lead-free solder alloys and higher temperature profiles associated with lead-free assembly.
- Relatively high breaking capacity at 100A.
- RoHS compliant / Halogen Free
- Rating – 0.5 - 3.15 Amperes.

Applications

- PC server and Telecom systems
- LCD TV inverter boards DC input protection
- Uninterruptible Power Supply (UPS) / 3-Phase Power Supplies
- 380VDC server / lighting in data center

Agency Approvals

Agency	Agency File Number	Ampere Rating
	E10480	500mA - 3.15A
	LR29862	500mA - 3.15A

Electrical Characteristics for Series

% of Ampere Rating	Opening Time at 25°C
100%	4 hours, Minimum
200%	60 seconds, Maximum

Electrical Specifications by Item

Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I²t (A²sec)	Agency Approvals	
0.50	.500	600V	100A @ 250V AC 100A @ 600V DC	0.807	0.0354	X	X
1.00	001.			0.264	0.3044	X	X
1.50	01.5			0.123	0.3917	X	X
2.00	002.			0.0744	0.8962	X	X
2.50	02.5			0.0583	1.4921	X	X
3.15	3.15			0.0395	3.304	X	X

Notes:

1. Cold resistance measured at less than 10% of rated current at 23°C.
2. Agency Approval Table Key: X=Approved or Certified, P=Pending and Blank=Not Approved.
3. I²t values stated for 8 msec opening time.

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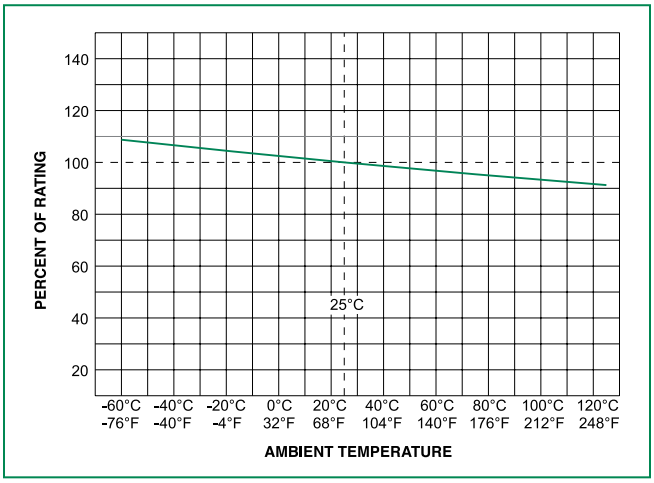
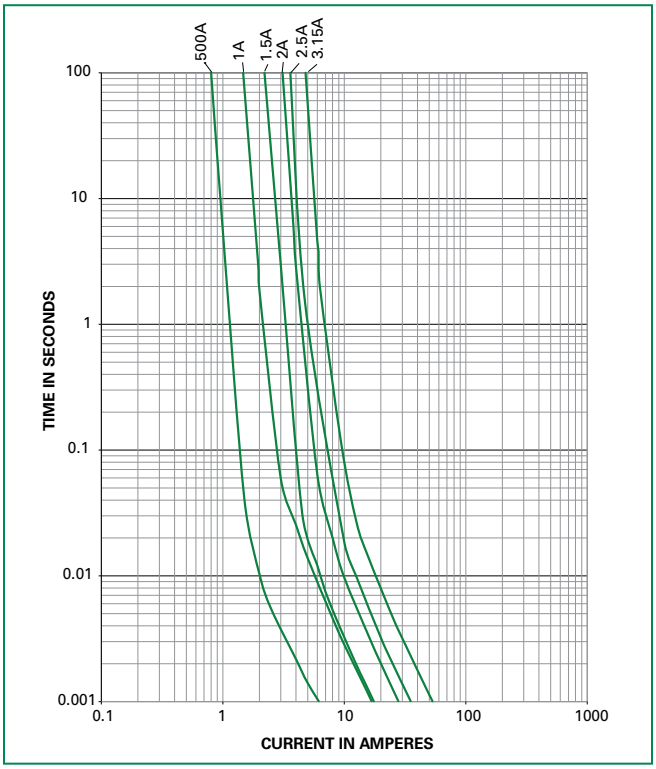
Temperature Rerating Curve

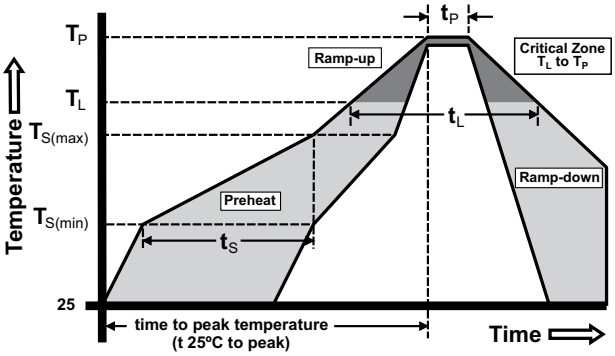


Average Time Current Curves



Soldering Parameters - Reflow Soldering

Reflow Condition		Pb – Free Assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	150°C
	-Temperature Max ($T_{s(max)}$)	200°C
	-Time (Min to Max) (t_s)	60 – 180 ses
Average Ramp-up Rate (Liquidus Temp (T_L) to peak)		5°C/second max.
$T_{S(max)}$ to T_L - Ramp-up Rate		5°C/second max.
Reflow	-Temperature (T_L) (Liquidus)	217°C
	-Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_P)		$260^{+0/-5}$ °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		5°C/second max.
Time 25°C to peak Temperature (T_P)		8 minutes max.
Do not exceed		260°C



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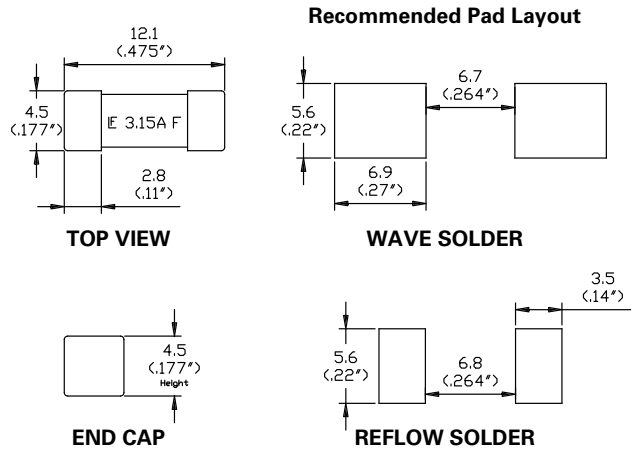
Product Characteristics

Material	**Body:** Ceramic **Cap:** Silver Plated Brass
Product Marking	**Body:** Brand Logo, Current Rating
Operating Temperature	-55˚C to 125˚C with proper derating
Moisture Sensitivity Level	Level 1 J-STD-020C
Solderability	MIL-STD-202, Method 208
Insulation Resistance (after Opening)	MIL-STD-202, Method 302, Test Condition A (10,000 ohms, Minimum)

Thermal Shock	MIL-STD-202, Method 107, Test Condition B, 5 cycles, -65˚C to 125˚C, 15 minutes @ each extreme
Mechanical Shock	MIL-STD-202, Method 213, **Test Condition I:** Deenergized. 100G's peak amplitude, sawtooth wave 6ms duration, 3 cycles XYZ+xyz = 18 shocks
Vibratio	MIL-STD-202, Method 201: 0.03" amplitude, 10-55 Hz in 1 min. 2 hrs. each XYZ=6hrs
Moisture Resistance	MIL-STD-202F, Method 106, 10 cycles
Salt Spray	MIL-STD-202, Method 101, Test Condition B (48hrs)
Resistance to Soldering Heat	MIL-STD-202, Method 210, Test Condition B (10 sec at 260˚C)

Dimensions



Part Numbering System

0485 3.15 D R

SERIES

AMP Code*
Refer to Electrical Characteristics Table

QUANTITY Code
E = 1500 pieces

PACKAGING Code
R = Tape and Reel

***Example**
3.15 amp is 04853.15DR

Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Option Code
24mm Tape and Reel	EIA-RS 481-1, (IEC 286, Part 3	1500	DR

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